Name: _____ Algebra 1A Unit 4 Study Sheet

Steps to Solving Equations:

1. D _____ _____

2. C _____ _____ _____

3. S_____ A_____

4. D _____ M_____

Examples:

Ex 1: 2x - 3 = -5	Ex 2: $\frac{f}{2}$ + 8 = -1
Ex 3: -4(x + 3) = 24	Ex 4: 6x - 3 + 2x = 4x + 9

Justifications:

_____ Property of _____: when you add the same value to both sides of the equal sign

_____ Property of _____: when you subtract the same value from both sides of the equal sign

_____ Property of _____: when you multiply the same value to both sides of the equal sign

_____ Property of _____: when you divide the same value on both sides of the equal sign

_____ Property: when you multiply a value to each term inside a parentheses

_____ Like Terms: when you add/subtract two or more like items that are on the same side of the equal sign

Justification Practice

Ex 5: Given Equation: $-3(x + 2) + 2x = -9$	**Property**
$-3x - 6 + 2x = -9$	_____
$-1x - 6 = -9$	_____
$-1x = -3$	_____
$x = 3$	_____

Key Terms in Solving Equations

_____ the variable: the main goal of solving equations

_____ operations: doing the "opposite" operation

_____: checking your answer to an equation by "plugging" in the value for the variable

Two Possible Solutions if Variables Cancel Out

If you end with a false equation:	If you end with a true equation:
_____	_____
Symbol: _____	Symbol: _____

Ex 6:	Ex 7:
$-2x + 3(4x - 5) = 5(2x + 4) - 35$	$7y + 3(2y - 8) = 8y + 24 + 5y$

To Eliminate Fractions in an Equation

If you have one fraction left next to a variable, multiply both sides of the = by the _____	If you have more than one fraction in an equation, multiply every single part of the equation by the _____
Ex 8:	Ex 9:
$\frac{4}{7}x + 3 = 7$	$\frac{5}{2}x - \frac{1}{4} = -2$